EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	135	(amorphous adj carbon) same (laser or radiation) same temperature	US-PGPUB; USPAT	OR	ON	2006/07/07 10:04
L3	69	1 and wavelength	US-PGPUB; USPAT	OR	ON	2006/07/07 10:05
L4	47	3 and @ad<"20040115"	US-PGPUB; USPAT	OR	ON	2006/07/07 10:05
L5	194	(amorphous with carbon) same (laser or radiation) same temperature	US-PGPUB; USPAT	OR	ON	2006/07/07 10:04
L6	4457	(amorphous with carbon) same (heat or heating or heated or anneal or annealing or thermal or laser or radiation)	US-PGPUB; USPAT	OR	ON	2006/07/07 10:05
L7	3846	6 and @ad<"20040115"	US-PGPUB; USPAT	OR	ON	2006/07/07 10:06
L8	993	7 and wavelength	US-PGPUB; USPAT	OR	ON	2006/07/07 11:35
L9	3389	(amorphous near4 carbon) same (heat or heating or heated or anneal or annealing or thermal or laser or radiation)	US-PGPUB; USPAT	OR	ON	2006/07/07 11:35
L10	966	9 and wavelength	US-PGPUB; USPAT	OR	ON	2006/07/07 10:06
L11	781	10 and @ad<"20040115"	US-PGPUB; USPAT	OR	ON	2006/07/07 10:08
L12	737	11 and temperature	US-PGPUB; USPAT	OR	ON	2006/07/07 10:10
L13	674	12 and (substrate or wafer or workpiece)	US-PGPUB; USPAT	OR	ON	2006/07/07 10:10
L14	1736	(amorphous near4 carbon) same (heat or heating or heated or anneal or annealing or thermal or laser or radiation)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/07/07 11:35
L15	69	14 and wavelength	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/07/07 11:35

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	(("6559017") or ("6475888") or ("5569501")).PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:18
L2	2	(("20020160592") or ("20050056940")).PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:23
L3	12	(("6650480") or ("6573030") or ("6495390") or ("6479821") or ("6303476") or ("5744375") or ("5559367") or ("5000113") or ("20030201466") or ("20030196995") or ("20030148594") or ("20020139975")).PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:35
L4	1	("20040115935").PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:35
L5	1	(("2002160592") or ("6573030")). PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:36
L6	2	(("20020160592") or ("6573030")). PN.	US-PGPUB; USPAT	OR	OFF	2006/07/07 13:48
L7	1033	"438"/$.ccls. and (amorphous adj carbon)	US-PGPUB; USPAT	OR	ON	2006/07/07 13:49
L8	537	"438"/$.ccls. and (amorphous adj carbon) and (laser or radiation or anneal or annealing)	US-PGPUB; USPAT	OR	ON	2006/07/07 13:51

US-PAT-NO: 6747282

DOCUMENT-IDENTIFIER: US 6747282 B2
See image for Certificate of Correction

TITLE: Lithographic apparatus, device manufacturing method, and device manufactured thereby

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Detailed Description Text - DETX (37):
The image sensor and ratio sensor as described above may also be used for measuring the intensity of the projection beam, e.g. for control of the dose of **radiation** incident on the substrate in the imaging process. However, the sensors may become polluted over time, predominantly by an **(amorphous) carbon** layer due to hydrocarbon molecules cracked under EUV **radiation**. Carbon shows a high absorption of EUV **radiation**: for example, 1% of incident EUV **radiation** may be absorbed by a 0.5 nm thick carbon layer. The presence of a carbon layer of unknown thickness may interfere with the use of the image (and/or ratio) sensor for calibrated EUV dose measurements. In such case, visible light (or even infrared **radiation**) may be used to accurately measure the carbon layer thickness, e.g. to support correction for absorbed EUV **radiation**. One possible advantage of such an operation is to avoid cleaning of the sensors at short time intervals.

Detailed Description Text - DETX (39):
It has further been shown that that **radiation** in the range of 400 to 1100 nm is readily absorbed by an **(amorphous) carbon** layer (absorption is even higher than for EUV **radiation**) and a carbon layer thickness can be accurately determined. Part of the beam of **radiation** in the range of 400-1100 nm can be split off using a beam splitter and be directed to a reference detector to correct for intensity fluctuations. EUV **radiation** would not be incident on such a reference sensor, and will therefore not cause carbon build-up on the reference sensor due to cracking of hydrocarbons by incident EUV **radiation**. The reference sensor will therefore remain clean. In case of a very stable light source, one might contemplate not employing a reference branch and not to employ TM polarized **radiation**.

US-PAT-NO: 5599590

DOCUMENT-IDENTIFIER: US 5599590 A

TITLE: Texture treatment for carbon substrate and for carbon overcoat layer of magnetic disks

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Brief Summary Text - BSTX (9):

The present inventors have earnestly studied the texture treatment of **amorphous carbon substrates**. As a result, it was found that, by the steps of polishing an **amorphous carbon substrate** to a specified surface roughness, and then **heating** it at a specified temperature in an oxidizing atmosphere, it is, possible to treat an **amorphous carbon substrate** to obtain a surface roughness suitable for a magnetic disk. Thus, the invention accomplished under this principle has been filed as Laid-open Japanese Patent Application Nos. 410434/1990 and No. 410436/1990. See also GB 2,242,423A.

Brief Summary Text - BSTX (10):

In this process, the **amorphous carbon substrate** is polished to a specified surface roughness, and is **heated at a temperature** of from 300.degree. C. to 1000.degree. C., preferably, from 400.degree. C. to 700.degree. C. The oxidation reaction C+O.sub.2 .fwdarw.CO.sub.2 occurs. The gasified carbon (represented by the carbon dioxide gas) leaves surface irregularities on the polished surface. Accordingly, by control of the **heating** conditions such as the temperature and the treatment time, it is possible to easily treat the **amorphous carbon substrate** to a specified surface roughness, and hence to prevent the surface from being made more rough than necessary. This prevents the head stiction to the magnetic disk, improves the characteristics of the magnetic film formed on the **amorphous carbon substrate**.

Brief Summary Text - BSTX (14):

In summary, the method of this invention is a texture treatment of an **amorphous or glassy carbon** surface of a magnetic recording medium comprising the steps of forming discrete areas of a solid oxidation catalyst on the carbon surface and **heating** the surface in the presence of oxygen to effect preferential oxidation of carbon at the surface adjacent to the catalyst. The oxidation catalyst is preferably formed as discrete islands by sputtering, ion implantation, chemical vapor deposition, plasma spraying, solution immersion or

solution co-precipitation. The preferred oxidation catalysts are non-magnetic catalytic transition metals such as chromium, tantalum and copper, for example. The carbon surface can be a base substrate or an overcoating layer, for example.

DERWENT-ACC-NO: 1993-182781

DERWENT-WEEK: 199821

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TITLE: Material with properties of polymer and carbon@ - obtd. by heat-treating polymer e.g. polyphenylene, useful for electrode, semiconductor activated carbon etc,

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Equivalent Abstract Text - ABEQ (5):

A primarily **amorphous carbon** material obtd. by **heat**-treating an organic, non-heterocyclic polymer compound under an inert gas atmosphere at a temp. of 500deg. to 1500deg. C., where the **amorphous carbon** material (1) has a hydrogen/carbon atomic ratio from 0.15 to 0.40, (2) a density from 1.3 to 2.1 g/cm3, (3) an amorphous structure, (4) exhibits peaks in the vicinity of 1350 cm-1 and 1600 cm-1 and no clear peak in the vicinity of 2700 cm-1 in a Raman spectrum analysis using an argon ion **laser** beam having a **wavelength** of 5,145 Angstrom , (5) exhibits a peak in the vicinity of 120 to 130 ppm, in NMR analysis, arising from aromatic cyclocondensation, and (6) has electrical conductivity, with a resistivity of 10-3 to 104 omegacm at room temp..

DERWENT-ACC-NO: 2005-260906

DERWENT-WEEK: 200613

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TITLE: Semiconductor device, e.g. memory device such as dynamic random access memory device, comprises substrate, device structure, and masking structure including amorphous carbon layer that is transparent in visible light range

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Basic Abstract Text - ABTX (3):

(A) a mask structure for semiconductor device, comprising an **amorphous carbon** layer that is transparent to **radiation having wavelengths** of 400-700 nm;